

\* NOTICES \*

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

DETAILED DESCRIPTION

---

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to a disk regenerative apparatus, especially relates to the disk regenerative apparatus of a compact disc (CD).

[0002]

[Description of the Prior Art] Drawing 2 shows the block diagram of an example of the conventional disk regenerative apparatus. In this drawing, CD-ROM1 as an example of an optical disk is set to a tray 2. at the time of playback, a tray 2 is contained into a drive with the tray drive 3 -- having -- recording surface 1a of the optical record data of CD-ROM1 -- the optical pickup 4 -- alienation -- the location which counters is reached and after playback termination is discharged out of a drive by the tray drive 3.

[0003] Connect with the host system and the electric target which do not illustrate through the interface control circuit 6, and the CD-ROM control circuit 5 controls the tray drive 3 according to the instruction from a host system inputted through the interface control circuit 6, and is made to contain it inside a drive of a tray 2, or is made to discharge to the exterior of a drive.

[0004] Moreover, the optical pickup 4 consists of a laser light source, optical system containing an objective lens, a light sensing portion that receives the reflected light. The optical record data which receive the predetermined instruction from a host system and are recorded on optical recording data surface 1a of CD-ROM1. A laser beam is reproduced from the optical reinforcement of the reflected light obtained by irradiating CD-ROM1. By [ which do not illustrate the data required of the host system through the CD-ROM control circuit 5 and the interface control circuit 6 out of playback data ] carrying out a host-system transfer, a host system processes the data.

[0005]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional disk regenerative apparatus, images, such as a field where the optical recording data of the opposite hand of optical recording data surface 1a where the optical record data of CD-ROM1 are recorded are not recorded, a disk name currently printed by the so-called labelled surface 1b, and a graphic form, cannot be read. That is, when the need of obtaining the data of information, such as playing order in case host systems be the class of CD-ROM, a title name, and Music CD, occur since it be circuitry of only the function which reproduce the data by which optical record be carried out to CD-ROM1 in the conventional disk regenerative apparatus for example, only the information which be specified in the predetermined logical format of CD-ROM and which be restricted very much can be acquire, and the above-mentioned required information cannot be acquire.

[0006] This invention was made in view of the above-mentioned point, and reproduces the labelled surface of an optical disk, and it aims at offering the disk regenerative apparatus which can perform the processing to image data and storage, and the image data transfer to a host system.

[0007]

[Means for Solving the Problem] In the disk regenerative apparatus which this invention contains in

equipment the disk with which images, such as a name and a graphic form, were printed by the recording surface on which optical record data were recorded, and the labelled surface of an opposite hand in order to attain the above-mentioned object, and reproduces optical record data by optical pickup the labelled surface of the contained disk -- alienation -- with the image reader which is arranged in the location which counters, reads the printing image of a labelled surface, and is changed into a picture signal. The image-processing circuit which changes the picture signal from an image reader into the image data of a predetermined data format, It considers as the configuration which has the data store circuit which memorizes the output image data of an image-processing circuit, and the control means which transmits the storage image data of a data store circuit to a host system with the instruction from a host system.

[0008] In this invention, the printing image of a labelled surface can be changed into the image data of data format suitable for a host system, it can memorize to a data store circuit, and the above-mentioned image data can be read and transmitted if needed from a host system.

[0009] Moreover, the image reader of this invention is interlocked with receipt initiation actuation of a disk, and is started, and it is characterized by outputting the picture signal of the printing image of a labelled surface continuously to receipt actuation termination. Therefore, in this invention, before optical pickup performs positioning actuation and reproduces optical record data, the picture signal of the printing image of a labelled surface can be acquired, and it can memorize to image data in the data store circuit after conversion.

[0010]

[Embodiment of the Invention] Next, the gestalt of operation of this invention is explained with a drawing. Drawing 1 shows the block diagram of the gestalt of 1 operation of the disk regenerative apparatus which becomes this invention. The same sign is given to the same component as drawing 2 among this drawing, and the explanation is omitted. As shown in drawing 1, the disk regenerative apparatus of the gestalt of this operation establishes the image reading circuit 10 in the conventional disk regenerative apparatus. The image reading circuit 10 consists of the image reader 11, an image-processing circuit 12, and a data store circuit 13.

[0011] CD-ROM1 when the image reader 11 being set to a tray 2, and being contained in a drive, It is placed in a fixed position by the location which counters. labelled surface 1b by which images, such as a disk name and a graphic form, are printed -- alienation -- It is equipment which has the function to change the range equivalent to the disk diameter of CD-ROM1 into reading and a picture signal in the color by one color or red, blue, green 3 colors, i.e., black and white, or 3 color composition, for example, consists of line sensors by the charge-coupled device (CCD) etc.

[0012] It connects with the image reader 11 electrically, and the image-processing circuit 12 has the function continuously processed to a two-dimensional image data value synchronizing with the control signal which directs the tray receipt actuation to the tray drive 3 with which the CD-ROM control circuit 5 outputs the picture signal acquired with the image reader 11. Moreover, the image data processed in the image-processing circuit 12 has the data format which a host system processes [ processing and ]. Moreover, the image-processing circuit 12 is electrically connected also to the CD-ROM control circuit 5.

[0013] It connects with the image-processing circuit 12 electrically, and the data store circuit 13 has the function to memorize electrically serially the two-dimensional image data processed continuously in the image-processing circuit 12.

[0014] Next, actuation of the gestalt of the above-mentioned operation is explained. Receipt inside a drive is started by the receipt actuation start signal of the tray 2 to the tray drive 3 with which CD-ROM1 of the arbitration set to the tray 2 by the user is sent out from the CD-ROM control circuit 5. Moreover, it can come, simultaneously the image reader 11 is started synchronizing with the above-mentioned receipt actuation start signal, and the image reader 11 starts reading of the picture of labelled surface 1b of CD-ROM1, and a graphic form.

[0015] Synchronizing with the receipt actuation start signal which directs receipt actuation of the tray 2 to the tray drive 3 with which the CD-ROM control circuit 5 outputs the picture signal continuously sent

out from the image reader 11 by the above-mentioned starting, transform processing of the image-processing circuit 12 is continuously carried out to the image data in which a host system has the data format in which processing and processing are possible. Consequently, two-dimensional image data is created by the image-processing circuit 12.

[0016] Furthermore, since a picture signal is continuously sent out from the image reader 11, the image-processing circuit 12 is serially sent out to the data store circuit 13, and makes the image data processed while performing the image processing serially memorize electrically. Moreover, this actuation is continuously performed until a tray 2 reads the whole labelled surface 1b to [ 1 ] the completion of receipt actuation into a CD-ROM drive (i.e., CD-ROM). And above-mentioned processing is ended with the control signal of receipt actuation termination of the tray 2 of the CD-ROM control circuit 5. then, after the optical pickup 4 performs positioning actuation to CD-ROM1, the record data of optical record data 1a are boiled and read.

[0017] In addition, when the condition of not being equipped with CD-ROM1 with the image reader 11 or other means at the time of receipt initiation of a tray 2 is detected, a series of above-mentioned processings are not performed, but perform only receipt actuation of the tray 2 by the tray drive 3.

[0018] Moreover, after the CD-ROM control circuit 5 performs emission control of a tray 2 to the tray drive 3 when the picture signal of the labelled surface of CD-ROM1 is not memorized in the data store circuit 13 in spite of setting CD-ROM1 to a tray 2 and containing it in the drive with the predetermined initialization instruction from a power up and a host system, a series of above-mentioned processings are performed.

[0019] With the predetermined instruction from a host system, reading appearance of the image data of labelled surface 1b of CD-ROM1 memorized in the data store circuit 13 is carried out by control of the interface control circuit 6, and it is transmitted to a host system via the interface control circuit 6.

[0020] Here, since the image data of labelled surface 1b of CD-ROM1 memorized in the data store circuit 13 can be transmitted earlier than reading the optical record data of CD-ROM1 with the predetermined instruction from a host system after the optical pickup 4 performs positioning actuation, a user can acquire the information on labelled surface 1b that there is almost no waiting for time amount.

[0021] In addition, as for this invention, it is needless to say that it is not limited to the gestalt of the above-mentioned operation, and can apply also to optical disks, such as CDs other than CD-ROM.

[0022]

[Effect of the Invention] According to this invention, as explained above, the picture of the labelled surface of optical disks, such as CD-ROM, and the information on a graphic form are read, and since it memorizes to a data store circuit and the host system enabled it for this image data to come to hand in the data format to which a host system can treat image data if needed, processing as image data of the picture of the labelled surface of the optical disk for which it depended on storage of human being conventionally, or the information on a graphic form, and management can be performed.

[0023] Moreover, after according to this invention setting an optical disk to a tray and containing inside a drive, Since the image information of the labelled surface of an optical disk is earlier [ than positioning of optical pickup ] reproducible promptly to reading the optical record data of an optical disk after optical pickup performs positioning actuation, It can obtain from the labelled surface of an optical disk, without giving a user most latency times in an early phase rather than it reads the optical record data of an optical disk and starts data, such as a class of optical disk to play.

---

[Translation done.]

\* NOTICES \*

JPO and INPIT are not responsible for any  
damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

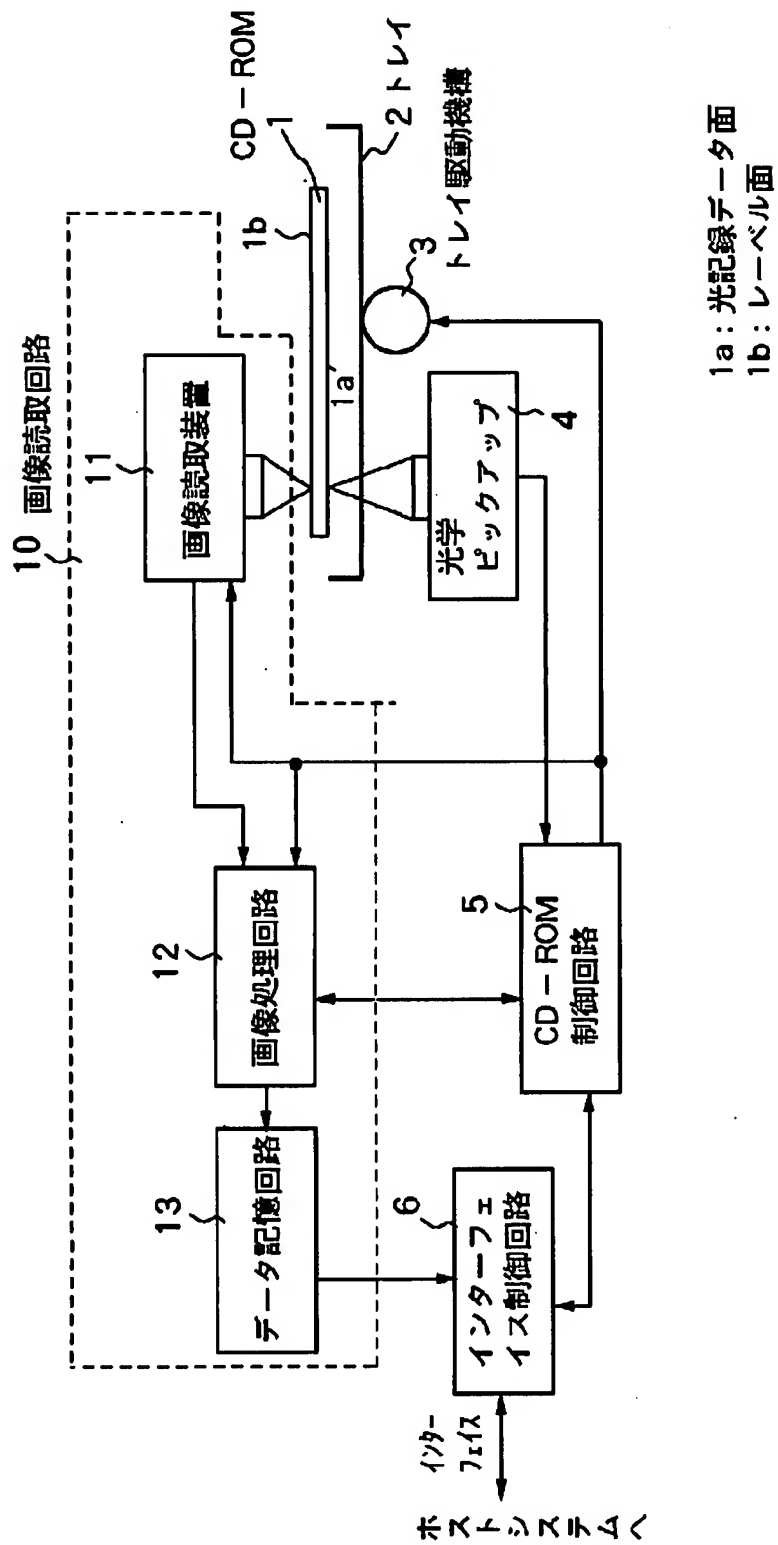
---

DRAWINGS

---

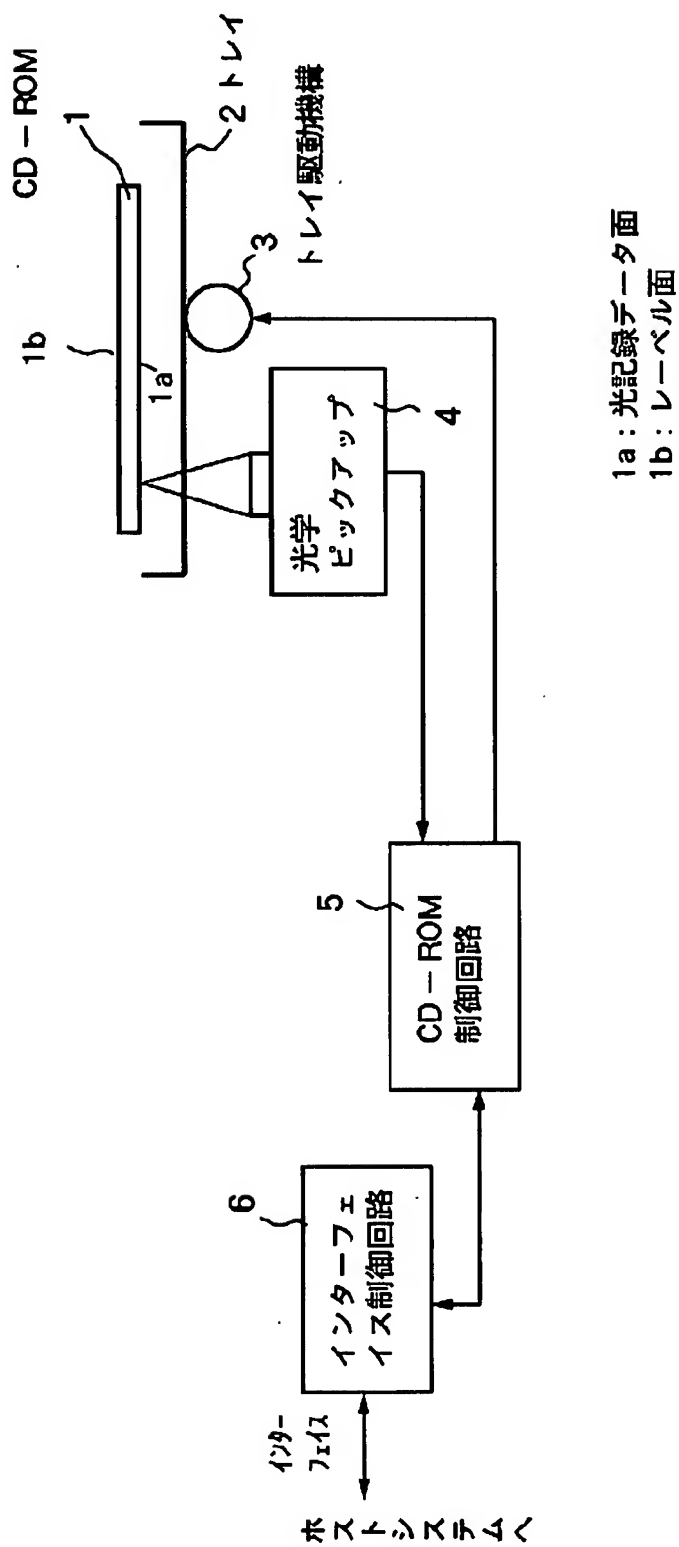
[Drawing 1]

## 本発明の一実施の形態のブロック図



[Drawing 2]

従来の一例のブロック図



[Translation done.]

**\* NOTICES \***

JPO and INPIT are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

---

**DESCRIPTION OF DRAWINGS**

---

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram of the gestalt of 1 operation of this invention.

[Drawing 2] It is the block diagram of a conventional example.

[Description of Notations]

1 CD-ROM

2 Tray

3 Tray Drive

4 Optical Pickup

5 CD-ROM Control Circuit

6 Interface Control Circuit

10 Image Reading Circuit

11 Image Reader

12 Image-Processing Circuit

13 Data Store Circuit

---

[Translation done.]